Amendment to the Claims:

1. (Currently Amended) A communications system comprising:

a plurality of mobile wireless units movably located within a defined space of a wireless local area network;

a plurality of fixed access points disposed at known locations in the defined space, each access point operating at a dedicated frequency different from the dedicated frequency of its nearest neighbor access points;

a means for tracking movement of at least one mobile ~~device~~ unit within the defined space including:

a memory storing a map of the access points and relative signal strengths of signals from the access points at predefined locations in the defined space,

a means for scanning identified scanning frequencies of access points nearby a selected one of the mobile wireless units to measure actual signal strengths between the selected mobile unit and each of the nearby access points, and

a means for calculating a location of the selected mobile unit relative to the map by comparing the actual signal strengths with the map of relative signal strengths at predefined locations in the defined space;

a means for assigning the nearby access points with strongest signals at the calibrated location to the selected mobile unit based on the map of relative strengths in the defined space and communicating the dedicated frequencies of the nearby access points to the selected mobile unit;

wherein the tracking means tracks the movement of the selected mobile unit by periodically scanning the frequencies of the assigned access points adjacent the calculated location and predicts future locations of the selected mobile unit;

wherein the assigning means assigns the nearby access points based on the predicted location of the selected mobile unit and the map;

wherein the scanning means only scans the frequencies of the assigned nearby access points.

2-3. (Cancelled)

4. (Previously Presented) The system as set forth in claim 1, wherein the position tracking means includes:

a velocity estimating means for determining speed and direction of movement of the selected mobile unit.

5. (Cancelled)

6. (Previously Presented) The system as set forth in claim 1, further including:

a means for determining a degree of certainty of an accuracy of the calculated location.

7. (Currently Amended) The system as set forth in claim 6, wherein the number of nearby access points assigned to the selected mobile unit is a function of location accuracy certainty and the tracking means tracks the movement of the at least one mobile ~~device~~ unit by periodically scanning only the frequencies of the access points assigned to the selected mobile unit.

8. (Previously Presented) The system as set forth in claim 1, further including a means for creating the map including:

a means for measuring a plurality of initial signal strengths at predefined locations within the defined space;

a means for mapping the initial signal strengths in relation to predefined locations in the defined space;

a means for identifying locations and scanning frequencies of the access points in the defined space; and

a means for creating the map and loading in the memory.

9. (Previously Presented) In a wireless local area network, a method for handing off a selected mobile device from one access point to another, each access point having a dedicated frequency different from the dedicated frequency of nearby access points, the method comprising:

tracking a movement of the selected mobile device within the defined space including:

scanning the dedicated frequencies assigned to each of an identified plurality of access points neighboring a last calculated location of the selected mobile device,

measuring actual signal strengths at each of the frequencies assigned to the access points neighboring the last calculated location of the selected mobile device, and

calculating a current location of the mobile device by comparing the actual signal strengths at each of the frequencies assigned to the access points neighboring the last calculated location with a predefined map of relative signal strengths at predefined locations in the defined space; and

based on the predefined map and the calculated current location, identifying from the predefined map a current plurality of the access points neighboring the current calculated location with the strongest signals at the current calculated location; and

assigning the current plurality of access points with strongest signals to the selected mobile device.

10. (Previously Presented) The method as set forth in claim 9, further including:

identifying the dedicated frequencies assigned to access points which are nearest to the last calculated location of the selected mobile device; and

tracking the movement of the selected mobile device by periodically scanning only the frequencies of the access points nearest to the last calculated location.

11. (Previously Presented) The method as set forth in claim 10, further including:

tracking the movement of the at least one mobile device by periodically scanning the frequencies of three of the access points nearest the last calculated location.

12. (Previously Presented) The method as set forth in claim 10, further including:

updating the frequencies of the nearest access points as the selected mobile device changes location.

13. (Previously Presented) The method as set forth in claim 9, further including:

estimating at least a speed and a direction of movement of the selected mobile device;

predicting a future location of the selected mobile device from the estimated speed and direction; and

reassigning the access points to the selected device based on the predicted location and the map.

14. (Previously Presented) The method as set forth in claim 9, further including, before tracking movement, generating the map by:

measuring a plurality of initial signal strengths at a plurality of measurement locations within a defined space;

mapping the initial signal strengths in relation to the plurality of measurement locations in the defined space;

identifying a plurality of locations and scanning frequencies of the access points located in the defined space; and

combining the signal strengths at the plurality of measurement locations and the access point locations and the frequency assigned to each access point into the map.

15. (Original) The method as set forth in claim 14, further including:

determining a certainty of an accuracy of the calculated location of the mobile device.

16. (Previously Presented) The method as set forth in claim 18, further including:

based on the certainty of the location calculation accuracy, adjusting a number of nearest access points whose frequencies are scanned; and

tracking the movement of the mobile device by periodically scanning the frequencies of the currently nearest access points.

17. (Original) The method as set forth in claim 15, further including:

comparing the determined certainty with a requested threshold.

18. (Currently Amended) In a wireless local area network, a methodfor handing off at least one mobile device from one access point to another, the method comprising:

generating a map of relative signal strengths at predefined locations in the defined space including:

measuring a plurality of initial signal strengths at predefined locations within a defined space;

mapping the initial signal strengths in relation to locations in the defined space; and

identifying a plurality of locations and scanning frequencies of the access points located in the defined space;

tracking a movement of the at least one mobile device within the defined space including:

(a) scanning identified scanning frequencies corresponding to each of an identified plurality of nearby access points;

(b) measuring actual signal strengths at each of the identified frequencies between the at least one mobile device and the identified access points, and calculating at least a location of the at least one mobile device by comparing the actual signal strengths with [[a]] the map of relative signal strengths at predefined locations in the defined space;

(c) determining a certainty of an accuracy of the calculated location of the mobile device;

(d) comparing the determined certainty with a requested threshold;

(e) in response to the certainty being below the requested threshold, scanning the scanning frequencies of a large number of the access points located in the defined space;

(f) measuring actual signal strengths at each of the scanning frequencies between the at least one mobile device and the corresponding access point;

(g) organizing the measured signal strengths in a categorized list;

(h) recalculating the location of the at least one mobile device;

(i) recalculating a certainty of an accuracy of the recalculated location of the mobile device; and

(j) comparing the recalculated certainty with the requested threshold.

19. (Original) The method as set forth in claim 18, further including:

in response to the recalculated certainty being greater than the requested threshold, selecting at least three access points from the categorized list based on signal strengths.

20. (Previously Presented) The method as set forth in claim 18, further including:

in response to the recalculated certainty being below the requested threshold, measuring the number of the scanning frequencies from the categorized list;

repeating steps (h)-(j) until the threshold is exceeded; and

identifying a set of optimal scanning frequencies.

21. (Original) The method as set forth in claim 15, wherein a number of nearest access points is a variable based on the determined certainty of the location calculation accuracy.

22. (Previously Presented) The method as set forth in claim 18, wherein the frequencies of the nearby access points are different.

23. (Previously Presented) The method as set forth in claim 9, further including:

handing off a plurality of mobile devices in the defined space ;

evaluating an overall distribution of the mobile devices in the defined space to determine a capacity of each access point; and

assigning the nearest access points to each mobile device based at least on both the determined capacity and the actual signal strength.

24. (Previously Presented) A communications system comprising:

a plurality of mobile wireless units located within a defined space of a wireless local area network;

a plurality of access points disposed at known locations in the defined space, each access point operating at a dedicated frequency;

a computer processor for tracking movement of the mobile units and reassigning frequencies of closest access points to each mobile unit, the computer processor being programmed to perform the steps of:

scanning identified scanning frequencies corresponding to each of an identified plurality of nearby access points,

measuring actual signal strengths at each of the identified frequencies between the at least one mobile device and the identified access points,

calculating at least a location of the at least one mobile device by comparing the actual signal strengths with a map of relative signal strengths at predefined locations in the defined space; and

assigning nearby access points with strongest signals to the at least one mobile unit based on the calculated location and the map.

25. (Previously Presented) The communication system as set forth in claim 24, further including:

a memory in which the map is stored and wherein the map depicts a location of each access point in defined space and relative signal strengths of signals from each of the access points at a multiplicity locations in the defined space.

26. (Previously Presented) The communication system as set forth in claim 24, wherein the map is a predefined map generated prior to tracking movement of the mobile units by the steps of:

measuring a plurality of initial signal strengths at a plurality of measurement locations within a defined space;

mapping the initial signal strengths in relation to the plurality of measurement locations in the defined space;

identifying a plurality of locations and scanning frequencies of the access points located in the defined space; and

combining the signal strengths at the plurality of measurement locations and the access point locations and the frequency assigned to each access point into the map.